

MOLECULAR WIRE INJECTION SENSORS

Abstract of the Disclosure

5 Disclosed is a sensor for sensing the presence of an analyte component without
relying on redox mediators. This sensor includes (a) a plurality of conductive polymer
strands each having at least a first end and a second end and each aligned in a substantially
common orientation; (b) a plurality of molecular recognition headgroups having an affinity
for the analyte component and being attached to the first ends of the conductive polymer
10 strands; and (c) an electrode substrate attached to the conductive polymer strands at the
second ends. The electrode substrate is capable of reporting to an electronic circuit
reception of mobile charge carriers (electrons or holes) from the conductive polymer
strands. The electrode substrate may be a photovoltaic diode.